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LAND USE CLASSIFICATION IN THE SOUTHEASTERN FOREST REGION

BY MULTISPECTRAL SCANNING AND COMPUTERIZED MAPPING

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ABSTRACT

The feasibility of mapping land use categories by airborne multispectral scanning was tested over two 42-square-kilometer sites in the Southeastern United States. New techniques were applied in preprocessing the data collected to compensate for effects of atmosphere and changing solar irradiance. The capabilities of extending spectral signatures from one training flight line to three additional lines for both test sites were analyzed. The data collected by the Spectral Analysis Recognition Computer system were compared to those obtained from color infrared photographs and ground surveys. The effects of time-of-day and selection of optimum channel on accuracy of mapping classification were investigated.

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A twofold challenge faces natural resource inventory specialists in the 1970's: (1) to develop a rapid classification system for following the dynamic changes affecting our Nation's resources and (2) to make that system accurate and efficient enough to be cost-effective. Some scientists believe, as we do, that such a system may well be an airborne multispectral scanner (MSS) for collecting data coupled with a hybrid analog/digital computer for analyzing and displaying the information gathered.